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MATHEMATISCH INSTITUUT
DER RIJKSUNIVERSITEIT TE UTRECHT

UTRECHT, March 12, 1970
Universiteitscentrum De Uithof
Budapestlaan
Tel. (030) 51 14 11

Professor Joshua Lederberg
Stanford University School of Medicine
Department of Genetics
STANFORD (Calif) 94305 USA

Dear Lederberg,

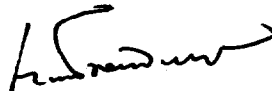
It is not the first time you show your keen interest in Lincos. I do not remember about the fine structure constant, but I am not sure whether transmitting any dimensionless physical constant would adequately be understood. Dimensionless constants may be computed differently in civilizations with a different historical background. For instance, the fine-structure constant could have a factor 2π more or less in one or the other culture without impairing its usefulness. Even purely mathematical constants are not too trustworthy. Maybe in another world they prefer using $\frac{1}{2\pi}$ rather than 2π , e^{-1} rather than e , which would not make too much difference for mathematics though it would impair the recognizability of the constant. Therefore I preferred introducing physical constants in a broader context where their meaning is explained, even though they are not dimensionless (as the Rydberg constant). Describing the hydrogen spectrum is as easy and more convincing. A list of prime numbers which may be short, is more convincing than e or π .

H. FREUDENTHAL

I have often been asked about your second question. The difference with Etruscan and Mayan is, first, that texts in these old languages are about subjects we are not acquainted with (it is old religion), second, that Lincos is intentionally made to be understood. In conferences I often made the experiment of confronting people with Lincos texts to be deciphered, and I always succeeded. Of course this is not a well controlled experiment, but I am quite convinced that it would work as well under serious experimental conditions.

Thank you for your letter.

Yours sincerely,



(H. Freudenthal)